

```
; Sequence 9, Application US/09646561
; GENERAL INFORMATION:
; APPLICANT: Sim, Gek-kee
; APPLICANT: Yang, Shumin
; APPLICANT: Sellins, Karen S.
; TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; FILE REFERENCE: IM-1-CL-PCT
; CURRENT APPLICATION NUMBER: US/09/646,561
; CURRENT FILING DATE: 2000-09-19
; PRIOR APPLICATION NUMBER: 60/078,765
; PRIOR FILING DATE: 1998-03-19
; PRIOR APPLICATION NUMBER: 09/062,597
; PRIOR FILING DATE: 1998-04-17
; NUMBER OF SEQ ID NOS: 65
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 9
; LENGTH: 987
; TYPE: DNA
; ORGANISM: Canis familiaris
US-09-646-561.9
atgatactcagatgacatggaactgaaataacattctcttctgtgatgaccctccctctatag
tgctgtcttcacatgaagctcaagcatatttcaacaagactggagaactggccatgcatattaca
atctcaacaacataaagcttgatggatggatgttcttggcagagccagatgaagctgttctg
taccagctatcacagagcaaggaagacccctcaaatgttcatgcgaagttaaggcgccgacacag
cttggaagaagaatttggacctggaacctccatattatcagatcaaggacaaggctgtgtac
aaagtttcgttcatcaaaaggcccaaggactcgttccatgaccagatgaatttgcattc
tcagttgttctacatcaagctcattcaactgaatttgcacatgacccaagaagaagaatttgg
catcataaatttaccctgtcattccatcaagaagttaccagaaccgaagcaagatgtattttg
taaaacccggaatttcaactgaactaaatgatatgttccagtcocctgaagcaaatctcaaatgtcaca
gaactccacaagcttctacacagctgtccttccagtcocctgaagcaaatctcaaatgtcaca
ctgtgcctgcgaacttggagtcgaatgaagcttccctccctcaacttataatagatgacatacga
aacctccctgtatggagcacaatcctcctgattcgcgtctcgtcttgaatttgcattcttg
tgtagaattggcttcttcttaacatcaaggaaagaaagaaagagcagctggccctctatga
atgtgaaccacaacaaagtggagaaagaaagtgagcagcaagcaagaaagatcacgtaacag
aaacggaaagatctgataagccagctgtgttaacatttcgaagacagcttcagcgacaacagt
actacacagttt
```

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; Sequence 19, Application US/09646561
; GENERAL INFORMATION:
; APPLICANT: Sim, Gek-kee
; APPLICANT: Yang, Shumin
; APPLICANT: Sellins, Karen S.
; TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; FILE REFERENCE: IM-1-CL-PCT
; CURRENT APPLICATION NUMBER: US/09/646,561
; CURRENT FILING DATE: 2000-09-19
; PRIOR APPLICATION NUMBER: 60/078,765
; PRIOR FILING DATE: 1998-03-19
; PRIOR APPLICATION NUMBER: 09/062,597
; PRIOR FILING DATE: 1998-04-17
; NUMBER OF SEQ ID NOS: 65
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 19
; LENGTH: 840
; TYPE: DNA
; ORGANISM: Canis familiaris
US-09-646-561-19
atgtatctcaatgacatggaactgaataacattctcttctgtgatgaccctccctctatag
tgctgtcttcacatgaagctcaagcatatttcaacaagactggagaactggccatgcatattaca
atctcaacaacataaagcttgatggatggatgttcttggcagagccagatgaagctgttctg
taccagctatcacagagcaaggaagacccctcaaatgttcatgcgaagtataaggcgccgacacag
cttgcaagaagaatttggacctggaacctccatattatcagatcaaggacaagagctgtgtac
aaagtttcgttcatcaaaaggcccaaggactcgttccatgaccagatgaatttgcattc
tcagttgttctacatcaagctcattcaactgaatttgcacatgacccaagaagaagaatttgg
catcataaatttaccctgtcattccatcaagaagttaccagaaccgaagagatgtatttgg
taaaacccggaatttcaactgaactaaatgatatgttccagtcocctgaagcaaatctcaaatgtcaca
gaactccacaagcttctacacagctgtccttccagtcocctgaagcaaatctcaaatgtcaca
ctgtgcctgcgaacttggagtcgaatgaagcttccctccctcaacttataatagatgacatacga
tggaagaagaagaaagtggagagcaagcaagaaagagtaagcttccatgaagaaagaaagctatg
gaagcccgctgtgttaacatttcgaagacagcttcaggcgacacagctactacacagttt
```

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; Sequence 28, Application US/09646561
; GENERAL INFORMATION:
; APPLICANT: Sim, Gek-Kee
; APPLICANT: Yang, Shumin
; APPLICANT: Sellins, Karen S.
; TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC
; FILE REFERENCE: IM-1-CI-PCT
; CURRENT APPLICATION NUMBER: US/09/646,561
; PRIOR FILING DATE: 2000-09-19
; PRIOR APPLICATION NUMBER: 60/078,765
; PRIOR FILING DATE: 1998-03-19
; PRIOR APPLICATION NUMBER: 09/062,597
; PRIOR FILING DATE: 1998-04-17
; NUMBER OF SEQ ID NOS: 65
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 28
; LENGTH: 996
; TYPE: DNA
; ORGANISM: Felis catus
; FEATURE:
US-09-646-561-28
atgggcatgtgtgacagcactatggagctgagtcacactctcttctgtgatggccctcctgtcttc
tgggtgttcttcacatgaagctcaagcatatttcaacagactggagaactgccatgccatttta
caactctcaaacataagctggagagctggtagtatatttggcaggaccaggataagctggtt
ctgtatgatatctcagaggcaagagaaacctccaataatgttcattctcaataataaggcccgac
aagcttggacaaggacaactggacctgagactccaaatgttcagatcaaggacaaggccacat
atcactgtttcattataaaggggccaaaggactgttcccatgcaccaaatgagttctgac
ctacagtgcttgcactacgtcagctcaactgaataacacgtacttctaataagacagaaattc
tggcatcataaatttgactctgcactatatacgaagtaccagacactcaaggagatgtatttc
agctaaactcgagaattcaactactaagtatgactgtctcatgaagaatctcaaatatgaatg
acagaactgtcacacacgttctctacagcttgccttttctcgtccctgaagcacaaatgtgag
cttttggccctgaactggagacactggagatgctgctctccctactcttcaatatagatgac
aacctaaaggataaaagccctgaacaggccacttccctggattggcgttacttgaattgtt
gttgttttttgggtggtgtcctttaaacaactaagaaaggaaggaagcagcagcctggccc
ctctcatgaatgtgaaccatcaaaaggagagaaagagacaaacagacccaagcaagagtac
catcacacgtactcgagatctgtaggcccagtgatttaacattttgaagacagcctcaggc
gacaaaagtactacacattt
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; Sequence 30, Application US/09646561
; GENERAL INFORMATION:
; APPLICANT: Sim, Gek-Kee
; APPLICANT: Yang, Shumin
; APPLICANT: Sellins, Karen S.
; TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC
; FILE REFERENCE: IM-1-CI-PCT
; CURRENT APPLICATION NUMBER: US/09/646,561
; PRIOR FILING DATE: 2000-09-19
; PRIOR APPLICATION NUMBER: 60/078,765
; PRIOR FILING DATE: 1998-03-19
; PRIOR APPLICATION NUMBER: 09/062,597
; PRIOR FILING DATE: 1998-04-17
; NUMBER OF SEQ ID NOS: 65
; SOFTWARE: PatentIn Ver. 2.0
; SEQ ID NO 30
; LENGTH: 509
; TYPE: DNA
; ORGANISM: Felis catus
; FEATURE:
US-09-646-561-30
atacaaggttaccagaacacctaaaggagatgtatttcagctaaacactgagaattcaactactaa
gtatgactctgtcatgagaatactcaataataatgtgacagaactgtacaagtttctatcagct
tgccttttcagtcctcctgaagcacacaatgtgagcgtcttttggccctgaaactggagacactg
gagatgtctctcctcctacacttcaatagatgacacaacctaaaggataaagacctgaacaaagg
ccactctctgtctgctgctgactgttaattgtttgtttgtttgtggatggtgtccttta
aaactaaagaaaggaagaaagacgacgctggccctctcatgaatgtgaaacctcaaaagg
gagaaaaagagagcaacagacccaagaaagagtagaccataccacgtactgagagatctgatga
agccacgtgtattaacatttgaagacagcctcaggcgcaaaaagtactacacal
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; Sequence 33, Application US/09646561
; GENERAL INFORMATION:
; APPLICANT: Yang, Gek-Ke
; APPLICANT: Yang, Shumin
; APPLICANT: Sellins, Karen S.
; TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC
; FILE REFERENCE: IM-1-C1-PCT ACID MOLECULES, AND USES THEREOF
; CURRENT APPLICATION NUMBER: US/09/646,561
; CURRENT FILING DATE: 2000-09-19
; PRIOR APPLICATION NUMBER: 60/078,765
; PRIOR FILING DATE: 1998-03-19
; PRIOR APPLICATION NUMBER: 09/062,597
; PRIOR FILING DATE: 1998-04-17
; NUMBER OF SEQ ID NOS: 65
; SOFTWARE: Patentin Ver. 2.0
; SEQ ID NO 33
; LENGTH: 359
; TYPE: DNA
; ORGANISM: Felis catus
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (1)..(357)
US-09-646-561-33
atacaaggcttaccagaacccaaggagatgtatttcagctaaacactgagaaatcaactactaa
gtatgatactgtcatgagaatctcaaatatgtgacagaactgtacacgtttctatcagct
tgccttttcagctcccgaaacacaaatgtgaagctcttttctgctccgaaactggagacaatg
gagatgcgcctccctccacttcaatcatagaaacacaaagggaagagaagaagacaaca
gacaaagaaagatcaccatcacgacgtacctgaagatctgtatgaagcccgatgataacatt
tgaagacagcctcagcgacaaagtlactaacaca1
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4. US-09-303-040-5 (1-1080)
US-09-646-561-30 Sequence 30, Application US/09646561

Sequence 30, Application US/09646561

GENERAL INFORMATION:

APPLICANT: Sim, Gek-Kee

APPLICANT: Yang, Shumin

TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY

PROTEINS, NUCLEIC

ACID MOLECULES, AND USES THEREOF

FILE REFERENCE: IM-1-CI-PCT

CURRENT APPLICATION NUMBER: US/09/646,561

CURRENT FILING DATE: 2000-09-19

PRIOR FILING DATE: 1998-03-19

PRIOR APPLICATION NUMBER: 60/078,765

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 65

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 30

LENGTH: 509

TYPE: DNA

ORGANISM: Felis catus

FEATURE:

NAME/KEY: CDS

LOCATION: (1)..(507)

Initial Score = 497 Optimized Score = 501 Significance = -0.40
Residue Identity = 98% Matches = 502 Mismatches = 7
Gaps = 1 Conservative Substitutions = 0

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10 20 30 40 50 60 70
GTTTCTGTTCTCTCGGAATGTCACTGAGTTATACATCTGCTCTCGGAGCTGCACTGGGATGTTT
80 90 100 110 120 130 140
GTGACAGCACTATGGACTGAGTACACTCTCTTGTGATGGCCCTCTCTGTTCTTCTTCATGA
150 160 170 180 190 200 210
AGAGTCAAGCATATTTCAACAAGACTGGAGACTGCCATTTTACAACTCTCAAAACATAAGCTGG
220 230 240 250 260 270 280
ATGAGCTGTAGTATTTTGGCAGGACCAAGGATAGCTGTTCTGTATGATGATTTACAGAGCAAGAAC
290 300 310 320 330 340 350 360
CTCAAAATGTTTCATCTCAATATAAGGCGGTACAGCTTTGACAGGACAACTGGACCTGAGACTCCA
370 380 390 400 410 420 430
ATGTTTCAGATCAAGGACCAAGGCGACATATCACTGTTTTCATTATTAAGGGCCCAAGGACTAGTTCCCA
440 450 460 470 480 490 500
TGCACCAATGAGTTCTGACCTATCACTGTTGCTTCACTTCACTCACTGAAATACAGTAACCTTAATA
510 520 530 540 550 560 570
GAACAGAAAATTCGGCATCAAAATTTGACCTGCTCATCTATCAAGGTTACCCAGAACCTTAAGGATGT
580 590 600 610 620 630 640
ATTTTCAGTAAACACTGAGATTTCAACTACTAGTATGATGATGTTCTGATGAGAAATCTCAAAATATGTA
650 660 670 680 690 700 710 720
CAGAACTGTACAAAGCTTTCTATCAGTTGCTTTTTCAGTCCCTGAGGACACAAATGTGAGCTTTTGTG
730 740 750 760 770 780 790
CAGAACTGTACAAAGCTTTCTATCAGTTGCTTTTTCAGTCCCTGAGGACACAAATGTGAGGCTTTTGTG
110 120 130 140 150 160 170
```

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180 190 200 210 220 230 240
CCCTGAAATGGAGACACTGGAGATGCTCTCTCCCTACCTTTCAATATAGATGACCAACCTTAAGGATAAG
250 260 270 280 290 300 310
ACCTGAAACAGAGGCACTTCTCTGGATTGGGCTGTACTTGTAAATGTTTGTGTTTGGATGGTGT
320 330 340 350 360 370 380 390
CCTTTAAACACTTAAGGAAAGGAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
400 410 420 430 440 450 460
AGAGAAAAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAGAG
470 480 490 500
GTATTAAACATTTTGAAGACAGCTCTCAGGCGACAAAGT-ACTACACA
1010 1020 1030 1040 1050 1060 1070 1080
GTGTTAAACATTTTGAAGACAGCTCTCAGGCGACAAATCTGTAAGAAATGGTGGCTTGGCTGTGCAAT
470 480 490 500
GTATTAAACATTTTGAAGACAGCTCTCAGGCGACAAAGT-ACTACACA
X
```

5. US-09-303-040-5 (1-1080)
US-09-646-561-33 Sequence 33, Application US/09646561

Sequence 33, Application US/09646561

GENERAL INFORMATION:

APPLICANT: Sim, Gek-Kee

APPLICANT: Yang, Shumin

TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY

PROTEINS, NUCLEIC

ACID MOLECULES, AND USES THEREOF

FILE REFERENCE: IM-1-CI-PCT

CURRENT APPLICATION NUMBER: US/09/646,561

CURRENT FILING DATE: 2000-09-19

PRIOR APPLICATION NUMBER: 60/078,765

PRIOR FILING DATE: 1998-03-19

PRIOR APPLICATION NUMBER: 09/062,597

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 65

SOFTWARE: Patentin Ver. 2.0

SEQ ID NO 33

LENGTH: 359

TYPE: DNA

ORGANISM: Felis catus

FEATURE:

NAME/KEY: CDS

LOCATION: (1)..(357)

Initial Score = 227 Optimized Score = 280 Significance = -1.37
Residue Identity = 79% Matches = 291 Mismatches = 62
Gaps = 15 Conservative Substitutions = 0

```
10 20 30 40 50 60 70
GTTTCTGTTCTCTCGGAATGTCACTGAGCTTATACATCTGCTCTCGGAGCTGCACTGGGATGTTT
80 90 100 110 120 130 140
GTGACAGCACTATGGAGTCACTGAGTCACTCTCTCTGATGGCCCTCTCTCTGTTTCTTCCATGA
150 160 170 180 190 200 210
AGAGTCAAGCATATTTCAACAAGACTGGAGACTGCCATGCTCAAACTCTCAAAACATAAGCTGG
220 230 240 250 260 270 280
ATGAGCTGTAGTATTTTGGCAGGACCAAGGATAGCTGTTCTGTATGATGATATTACAGAGCAAGAACCC
```


> O <
O| |0 Intelligence
> O <

FastDB - Fast Pairwise Comparison of Sequences
Release 5.4

Results file us-09-303-510-5.res made by jdelaval on Fri 20 Dec 102 9:02:01-PST.

Query sequence being compared: US-09-303-510-5 (1-1080)
Number of sequences searched: 5
Number of scores above cutoff: 5

Results of the initial comparison of US-09-303-510-5 (1-1080) with:
File : roark-09-646561.seq

```

100-
N -
U -
M -
B -
E -
R -
O -
F 10-
S -
E 5-
U -
U -
N -
C -
E -
S -
SCORE 0 109 218 327 436 544 653 762 871 980
STDEV -1 1 1 1 1 1 1 1 1 1

```

PARAMETERS

Similarity matrix Unitary K-tuple 4
Mismatch penalty 1 Joining penalty 30
Gap penalty 1.00 Window size 32
Gap size penalty 0.33
Cutoff score 0
Randomization group 0

SEARCH STATISTICS

Scores: Mean Median Standard Deviation
607 498 276.48
Times: CPU
00:00:00.00 Total Elapsed
00:00:00.00

Number of residues: 3691
Number of sequences searched: 5
Number of scores above cutoff: 5

The scores below are sorted by initial score.
Significance is calculated based on initial score.

A 100% identical sequence to the query sequence was not found.

The list of best scores is:

Sequence Name	Description	Length	Score	Init. Opt. Score	Sig. Frame
1. US-09-646-561-28	Sequence 28, Application 996	980	986	1.35	0
2. US-09-646-561-9	Sequence 9, Application 987	706	868	0.36	0
3. US-09-646-561-19	Sequence 19, Application 840	625	691	0.07	0
4. US-09-646-561-30	Sequence 30, Application 509	497	501	-0.40	0
5. US-09-646-561-33	Sequence 33, Application 359	227	280	-1.37	0

1. US-09-303-510-5 (1-1080)

US-09-646-561-28 Sequence 28, Application US/09646561

Sequence 28, Application US/09646561

GENERAL INFORMATION:

APPLICANT: Yang, Gek-Ke

APPLICANT: Yang, Shumin

APPLICANT: Sellins, Karen S.

TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY

PROTEINS, NUCLEIC

FILE REFERENCE: 1M-1-C1-PCT

CURRENT APPLICATION NUMBER: US/09/646,561

PRIOR FILING DATE: 2000-09-19

PRIOR APPLICATION NUMBER: 60/078,765

PRIOR FILING DATE: 1998-03-19

PRIOR APPLICATION NUMBER: 09/062,597

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 65

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 28

LENGTH: 996

TYPE: DNA

ORGANISM: Felis catus

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

Conservative Substitutions = 0

Initial Score = 980

Optimized Score = 986

Significance = 1.35

Residue Identity = 98%

Matches = 988

Mismatches = 8

Gaps = 3

3. US-09-303-510-5 (1-1080)
US-09-646-561-19 Sequence 19, Application US/09646561

```

730      740      750      760      770      780      790
CCCTGAACCTGGGACACATCGATGCTGCTCCCTACCTTTCATATATGATGACCAACCTTAAGATTAAG
|||||
TCTGTGCACTTAGTCAAT--GAGCTTCTCTCCCTCACTTATATATGATGACA---TAGAACAACA
660      670      680      690      700      710      720

800      810      820      830      840      850      860
ACCTGGAACAGGCCCTTCTCTGATTCGGGCTGATCTTGTAAATGTTGTTTGTGGAGATGCT
|||||
CCCTCATGAGACCAACATCTCTGATTTGGGCTCTGCTGTAAATGTGGTCATTTTGTGGGATGGT
730      740      750      760      770      780      790

870      880      890      900      910      920      930
CTTTTAAACATCTAAAGAAAGAAAGAAAGAAAGACGCGCGCCCTCTCATGATGTGAATGTGAACCACTAAAGGG
|||||
TCTTTTCAACTAATGAAGAAAGAAAGAAAGAAAGACGCGCCCTCTCATGATGTGAATGTGAACCACTAAAGTGG
800      810      820      830      840      850      860

940      950      960      970      980      990      1000
AGGAAAGAGAGACCAACAACGACCAACGAAAGATGCCATACCGATCTGTGAAGATCTGATGAAGCCCACT
|||||
AGGAAAGAAAGAAAGTGAAGCAGCAAGCAAGAAAGATGCGTACCTATGAACCGAAAGATGTGAAGAGCCCACT
870      880      890      900      910      920      930

1010      1020      1030      1040      1050      1060 X      1070      1080
GTGTGAACATTTTGAAGACGATCTCAGGAGCAACAATAATCAGTGTGGAAGAAATGTGGCGCTTGCGGTGTCATCAT
|||||
GTGTGAACATTTTGAAGACGATCTCAGGCGCAAA-----CACTACTACACAGTTT
940      950      960      970      980
X
```

Sequence 19 Application US/09646561
GENERAL INFORMATION:
APPLICANT: Sim, Gek-Kee
APPLICANT: Yang, Shumlin
APPLICANT: Sellins, Karen S.
TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY
PROTEINS, NUCLEIC
ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-1-C1-PCT
CURRENT APPLICATION NUMBER: US/09/646,561
CURRENT FILING DATE: 2000-09-19
PRIOR APPLICATION NUMBER: 60/078,765
PRIOR FILING DATE: 1998-03-19
PRIOR APPLICATION NUMBER: 09/062,597
PRIOR FILING DATE: 1998-04-17
NUMBER OF SEQ ID NOS: 65
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 19
LENGTH: 840

```

TYPE: DNA
ORGANISM: Canis familiaris

Initial Score = 625 Optimized Score = 691 Significance = 0.07
Residue Identity = 824 Matches = 707 Mismatches = 126
Gaps = 23 Conservative Substitutions = 0

```

GTTCTGTGTTCTCGGGAAATGACATGACCTTATTCATCGTCTCTGAGAGTCGACGTGAAAGGCGATT
 10 20 30 40 50 60 X 70
 GTTCTGTGTTCTCGGGAAATGACATGACCTTATTCATCGTCTCTGAGAGTCGACGTGAAAGGCGATT
 80 90 100 110 120 130 140
 GTTCTGTGTTCTCGGGAAATGACATGACCTTATTCATCGTCTCTGAGAGTCGACGTGAAAGGCGATT
 150 160 170 180 190 200 210
 GTTCTGTGTTCTCGGGAAATGACATGACCTTATTCATCGTCTCTGAGAGTCGACGTGAAAGGCGATT
 10 20 30 40 50 60 70
 AT--GTACT
 X

[illegible][illegible]

4. US-09-303-510-5 (1-1080)
US-09-646-561-30 Sequence 30, Application US/09646561

Sequence 30, Application US/09646561

GENERAL INFORMATION:

APPLICANT: Yang, Gek-Kee

APPLICANT: Yang, Shumin

APPLICANT: Sellins, Karen S.

TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC

FILE OF INVENTION: ACID MOLECULES, AND USES THEREOF

FILE REFERENCE: IM-1-CI-PCT

CURRENT APPLICATION NUMBER: US/09/646,561

PRIOR FILING DATE: 2000-09-19

PRIOR APPLICATION NUMBER: 60/078,765

PRIOR FILING DATE: 1998-03-19

PRIOR APPLICATION NUMBER: 09/062,597

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 65

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 30

LENGTH: 509

TYPE: DNA

ORGANISM: Felis catus

FEATURE:

NAME/KEY: CDS

LOCATION: (1)..(507)

Initial Score = 497 Optimized Score = 501 Significance = -0.40
Residue Identity = 98% Matches = 502 Mismatches = 7
Gaps = 1 Conservative Substitutions = 0

```
10 20 30 40 50 60 70
GTTTCTGTCTCTCGGAATGTCACGTATATACATCTGTCTCTGGAGCTGCAGTGGGCGATT
80 90 100 110 120 130 140
GTGACAGCACTATGGAGTGTGACACTCTCTGTGTGGCCCTCTGTCTCTGTCTCTGTCTCTGTG
150 160 170 180 190 200 210
AGAGTCAAGCATATTTCAACAGACTGGAGACTGCGCATGCCATTTTCAAACTCTCAAAACATAGCCTGG
220 230 240 250 260 270 280
ATGAGCTGCTGATTTTGGCAGGACCAAGTAAAGTCTGTCTGTATGAGATATTCAGAGGCAAGAGAAC
290 300 310 320 330 340 350 360
CTCAAAATGTTCTCTCAATATATAGGGCCGTACAAGCTTTGACAGGACAACTGGACCTGACACTCCAC
370 380 390 400 410 420 430
ATGTTTCAGATCAAGGACCAAGGACATATCACTGTTTTCATTTATTAAGGGCCCAAGGACTAGTTCCCA
440 450 460 470 480 490 500
TGCACCAATGAGTTCTGACCTATCACTGCTTCTTAACCTCACTCACTCACTCACTCACTCACTCACT
510 520 530 540 550 560 570
GAACAGAAAAATTCGGCATCAATAATTTGACCTGCTCATCTATACAGGTTACCCAGAACCTTAAGGATGT
|||||
ATACAAGGTTTACCCAGAACCTTAAGGATGT
X 10 20 30
580 590 600 610 620 630 640
ATTTTCAGTAAACACTGAGNATTTCACTACTAAGTATGATGATGATGATGATGATGATGATGATGATG
|||||
ATTTTCAGTAAACACTGAGNATTTCACTACTAAGTATGATGATGATGATGATGATGATGATGATGATG
40 50 60 70 80 90 100
650 660 670 680 690 700 710 720
CAGACTGTAAACACTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG
|||||
CAGAACTGTAAACACTGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATGATG
110 120 130 140 150 160 170
730 740 750 760 770 780 790
```

```
800 810 820 830 840 850 860
ACCTTGAAACAAAGGCCACTCTCTCTGGATTGCGGCTGTACTGTAAATGTTTGTGTTTGTGGGATGGTGT
180 190 200 210 220 230 240
CCCTGAAACAAAGGCCACTGTGAGATGCTGCTCTCCCTACCTTTCAATATAGATGCAACCACTTAGGATTAAG
250 260 270 280 290 300 310
ACCTTGAAACAAAGGCCACTCTCTCTGGATTGCGGCTGTACTGTAAATGTTTGTGTTTGTGGGATGGTGT
320 330 340 350 360 370 380 390
CCTTTAAACACACTAAGGAAAGGAAGAACGAGCAGCGCTGCGCCCTCTCATGAATGTGAAACCATCAAAAGGG
870 880 890 900 910 920 930
CCTTTAAACACACTAAGGAAAGGAAGAACGAGCAGCGCTGCGCCCTCTCATGAATGTGAAACCATCAAAAGGG
940 950 960 970 980 990 1000
AGAGAAAGAGAGCAAAACAGACCAACGAAAGAGTACCATACCACTGCTGAGATCTGATGAAGCCAGT
400 410 420 430 440 450 460
AGAGAAAGAGAGCAAAACAGACCAACGAAAGAGTACCATACCACTGCTGAGATCTGATGAAGCCAGT
470 480 490 500
GTATTAAACATTTTGAAGACAGCGCTCAGGCGACAAAGT-ACTACACA
X
```

5. US-09-303-510-5 (1-1080)

US-09-646-561-33 Sequence 33, Application US/09646561

Sequence 33, Application US/09646561

GENERAL INFORMATION:

APPLICANT: Yang, Gek-Kee

APPLICANT: Yang, Shumin

APPLICANT: Sellins, Karen S.

TITLE OF INVENTION: NOVEL FORMS OF T CELL COSTIMULATORY PROTEINS, NUCLEIC

FILE OF INVENTION: ACID MOLECULES, AND USES THEREOF

FILE REFERENCE: IM-1-CI-PCT

CURRENT APPLICATION NUMBER: US/09/646,561

PRIOR FILING DATE: 2000-09-19

PRIOR APPLICATION NUMBER: 60/078,765

PRIOR FILING DATE: 1998-03-19

PRIOR APPLICATION NUMBER: 09/062,597

PRIOR FILING DATE: 1998-04-17

NUMBER OF SEQ ID NOS: 65

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 33

LENGTH: 359

TYPE: DNA

ORGANISM: Felis catus

FEATURE:

NAME/KEY: CDS

LOCATION: (1)..(357)

Initial Score = 227 Optimized Score = 280 Significance = -1.37
Residue Identity = 79% Matches = 291 Mismatches = 62
Gaps = 15 Conservative Substitutions = 0

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10 20 30 40 50 60 70
GTTTCTGTCTCTCGGAATGTCACGTATATACATCTGTCTCTGGAGCTGCAGTGGGCGATT
80 90 100 110 120 130 140
GTGACAGCACTATGGAGTGTGACACTCTCTGTGTGGCCCTCTGTCTCTGTGTTTCTTCCATGA
150 160 170 180 190 200 210
AGAGTCAAGCATATTTCAACAGACTGGAGAACCTGCAATGCCATTTTCAAACTCTCAAAACATAGCCTGG
220 230 240 250 260 270 280
ATGAGCTGCTGATTTTGGCAGGACCAAGGATAGCTGTTCTGTATGAGATATTCAGAGGCAAGAGAAC
```


